

REMARKS

Initially, Applicant would like to thank the Examiner for taking part in the telephone interview on February 24, 2010 (hereinafter the “Telephone Interview”). Claims 1-3, 6-8, 10-19, 21-26, 28, 29, 31, 34, 36-38, 40, 41 and 46-53 are presently pending for consideration in the present application. Claims 4, 5, 9, 20, 27, 30, 32, 33, 35, 39 and 42-45 were previously cancelled, without prejudice. Claims 1, 10, 12-14, 16, 17, 21, 22, 24, 25, 40 and 46 have been amended and are fully supported by the originally filed specification and drawings. Claims 47-53 have been added, and are also fully supported by the originally filed specification and drawings. It is respectfully submitted that no new matter has been added. Applicant reserves the right to file one or more continuing and/or divisional applications in which non-elected, withdrawn and/or cancelled claims would be prosecuted.

REJECTIONS UNDER 35 U.S.C. §112 SHOULD BE WITHDRAWN

Claims 1-3, 6-8, 10, 11, 26, 28, 29, 31, 36, 37 and 38 stand rejected under 35 U.S.C. § 112, first paragraph, as allegedly failing to comply with the written description requirement. Specifically, the office action alleges that claim 1 requires a single articulation member with first and second articulation portions comprising pivotal joint members, and further alleges that there is no single articulation member in Figures 18 and 19 that comprises first and second portions that meet such language. The office action alleges that it is inappropriate to call them a single member because they are clearly separated by body member 154, which makes it impossible for them to be in a particular location.

However, Applicant respectfully asserts that this position is mistaken. For example, in Figs. 18-19, and the specification of the present application, it is clearly described that such recitation of claim 1 is consistent with the specification. Specifically, on page 15, lines 24-30 of the present application, for example, describes an embodiment as follows:

“As shown in FIGS. 18 and 19, the embodiment of prosthesis 152 includes a prosthetic vertebral-body portion 154 for use after a corpectomy. Vertebral contacting members 156 are articulated via articulation portions 48,49 to the body portion 154. On an opposite axial side, the body portion 154 is articulably associated with a another vertebral contacting member 156 via a second set of articulation portions 48,49. The body portion 154 defines articular cavities 50 to pivotally and rotatably receive the articulation portions 48 or 49.”

Accordingly, it is clear that articulation portions 48 and 49 can clearly be on both sides of the body portion 154, and are not separated by body portion 154 in an embodiment of the present application. For example, in one embodiment of Fig. 19 of the present application, which is reproduced below, articulation portions 48, 49 can be provided on both sides of the body portion 154, wherein articulation portion 48 can contact the support member 156, and articulation portion 49 can contact body portion 154.

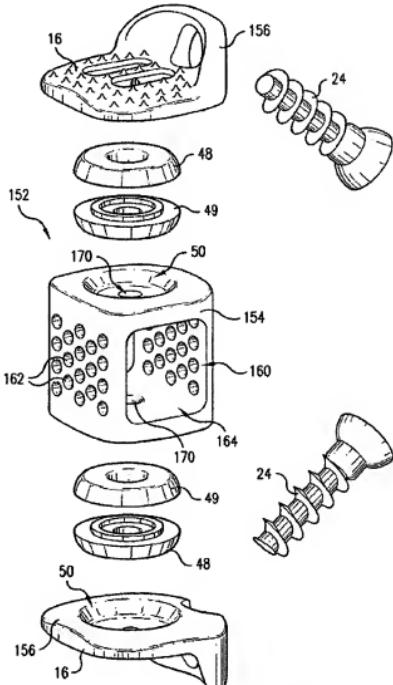


FIG.19

Therefore, Applicant respectfully requests withdrawal of the 35 U.S.C. § 112, first paragraph rejection of claims 1-3, 6-8, 10, 11, 26, 28, 29, 31, 36, 37 and 38.

REJECTIONS UNDER 35 U.S.C. § 103 SHOULD BE WITHDRAWN

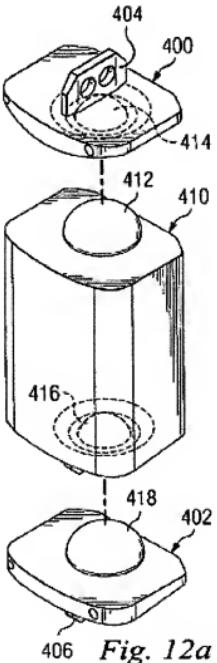
Claims 1-3, 6-8, 10-16, 25, 36-38, 40 and 46 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent Publication No. 2005/0060034 by Berry et al. ("Berry") in view of U.S. Patent No. 6,368,350 to Erickson et al. ("Erickson"). Claims 26, 28, 29, 31 and 34 stand rejected under Berry and Erickson, in view of U.S. Patent No. 6,113,637 to Gill et al. ("Gill"). Claim 41 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Berry, Erickson and Gill, and further in view of U.S. Patent Publication No. 2002/0183761 to Johnson et al. ("Johnson").

Applicants respectfully submit that Berry, individually or in combination with Erickson, Gill and/or Johnson, fails to teach or suggest the recitations of amended independent claims 1, 12 and 40, and the claims that depend therefrom, for at least the reasons as provided below.

The present disclosure provides an anthropoplasty spinal prosthesis for implantation in a human or animal to provide improved implantation longevity and articulation kinematics similar to the tissue being replaced. Amended independent claims 1, 12 and 40 clearly recite a structure with an articulation member, which replaces a vertebral disk, that can translate two different pivotal axes or two support members. Such translation/articulation is not provided for in the prior art relied on by the Examiner.

To provide such articulation, e.g., amended independent claim 1 recites, *inter alia*, a vertebral arthroplasty prosthesis, comprising first and second support members, and an articulation member including a first articulation portion having a first pivotal joint member in pivotal association with the first support member for pivoting at the first pivotal axis, and a second articulation portion having a second pivotal joint member in pivotal association with the second support member for pivoting at the second pivotal axis, wherein the first and second articulation portions are associated with each other for translation with respect to each other at a location between the first and second articulation portions to translate the first support member, first pivotal joint member, and first pivotal axis with respect to the second support member, second pivotal joint member, and second pivotal axis. As discussed with the Examiner during the Telephone Interview, Berry, individually or in combination with Erickson, does not teach or suggest such an articulation member having first and second articulation portions that are associated with each other for translation with respect to each other at a location between the first and second articulation portions.

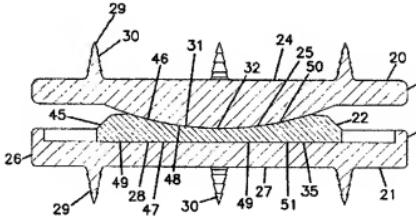
For example, Berry describes a modular prosthetic device with an anchoring device having first and second end members, the first and second end members cooperating to receive a prosthetic insertion device. (See Berry, Abstract). Berry, in Fig. 12a thereof (which is reproduced below), clearly does not show an articulation member comprising first and second articulation portions that are associated with each other for translation with respect to each other at a location between the first and second articulation portions. In fact, in the Final Office Action, on page 4, lines 5-9 thereof, it is stated that Berry does not teach or suggest translation between articulation portions. However, the Final Office Action further alleges that Erickson teaches or suggests a spinal prosthesis that comprises an articulation portion that allows translational movement.



406 *Fig. 12a*

Erickson, in Figs. 6-7 (Fig. 6 of Erickson is reproduced below), and col. 7, lines 47-65, describes a intervertebral disc prosthesis (IDP) 10 that includes a first end piece 20 and a second end piece 21, that allows for translational freedom in a lateral direction. As discussed with the Examiner during the Telephone Interview, however, Erickson clearly does not teach or suggest the recited first and second articulation portions, that are associated with each other for translation with respect to each other at a location between the first and second articulation portions. Clearly, in Fig. 6, the upper member can not pivot and translate separately on a different axis than the lower member, which is provided for by the recitations of amended independent claim 1.

FIG.6



Therefore, the combination of Berry and Erickson clearly does not teach or suggest the recitations of amended independent claim 1.

Amended independent claim 12 recites, *inter alia*, an arthroplasty prosthesis, comprising first and second support members, and first and second articulation portions, the first articulation portion having a first pivotal joint member in pivotal association with the first support member for pivoting at the first pivotal axis, and the second articulation portion having a second pivotal joint member in pivotal association with the second support member for pivoting at the second pivotal axis, wherein the first and second articulation portions are in sliding contact with each other between the first and second pivotal joint members to permit translation of the first and second support members and pivotal joint members with respect to each other.

As discussed with the Examiner during the Telephone Interview, Berry, individually or in combination with Erickson, does not teach or suggest such first and second articulation portions that are in sliding contact with each other between the first and second

pivot joint members to permit translation of the first and second support members and pivotal joint members with respect to each other. The recited first and second pivotal axis, with such first and second articulation portions, allow for two separate pivotal axes. On the other hand, the articulation described in Erickson shifts only one pivot axis of the support members associated therewith. As seen in Fig. 6 of Erickson above, for example, if the upper member 20 were shifted to the right of the figure with respect to the lower member 21, the upper member 20 would still pivot normally, but the pivot axis would become highly eccentric with respect to the lower member 21. Consequently, instead of providing a natural pivoting of the lower member 21 around its own axis as it would in a natural spine, the left side of the lower member 21 shown in Fig. 6 of Erickson would swing over a very large arc around the axis, while the right side would swing very little. Consequently, the movement afforded by, e.g., the invention of claims 1, 12 and 40 provide a surprisingly beneficial movement compared to any combination of the prior art.

Therefore, the combination of Berry and Erickson clearly does not teach or suggest the recitations of amended independent claim 12.

Amended independent claim 40 recites, *inter alia*, an arthroplasty prosthesis, comprising upper and lower disk prosthetic portions, wherein the upper disk prosthetic portion comprises an upper support member having an upper first anterior-posterior lateral pivotal axis, an upper first articulation portion having an upper first pivotal joint member in pivotal association with the upper support member for pivoting at the first pivotal axis, and an upper second articulation portion having an upper second pivotal joint member in pivotal association with the vertebral body prosthetic portion for pivoting at the upper body pivotal axis, in contact with the upper first articulation portion between the upper joint members such that the upper first and second articulation portions are translatable with respect to each other, and wherein the lower disc prosthetic portion comprises a lower support member having a second anterior-posterior lateral pivotal axis, a lower first articulation portion having a lower first pivotal joint member in pivotal association with the lower support member for pivoting at the second pivotal axis, and a lower second articulation portion having a lower second pivotal joint member in pivotal association with the vertebral body prosthetic portion for pivoting at the lower body pivotal axis, in contact with the lower first articulation portion between the lower joint members such that the lower first and second articulation portions are translatable with respect to each other.

As discussed with the Examiner during the Telephone Interview, Berry, individually or in combination with Erickson, does not teach or suggest such upper and lower articulation portions that are in contact with each other and translatable with respect to each other. Therefore, the combination of Berry and Erickson clearly does not teach or suggest the recitations of amended independent claim 40.

Gill and/or Johnson do not cure the deficiencies of Berry and Erickson as described above, and the Examiner does not contend that they do.

Regarding the dependent claims, Applicant respectfully submits that the cited references, individually or in combination, fail to disclose, teach or suggest the recitations of amended independent claims 1, 12 and 40. Accordingly, because the dependent claims contain additional recitations, the dependent claims are at least allowable for the reasons as set forth above with respect to the independent claims.

New claims 47-53 are allowable at least based on their dependency from amended independent claim 1, as well as being separately patentable. For example, claim 52 recites that the third and fourth articulation portions (recited in claim 50) are translatable with respect to each other at a location between the third and fourth joint members to translate the second and third support members and pivotal axes with respect to each other. Claim 53 recites that the first and second articulation portions are in sliding contact against each other to allow the translation. Such recitations are not taught or suggested by any possible combination of the prior art relied on by the Examiner.

In view of the above, Applicant respectfully requests withdrawal of the 35 U.S.C. § 103(a) rejection of claims 1-3, 6-8, 10-16, 25, 36-38, 40 and 46 as being unpatentable over Berry in view of Erickson, the 35 U.S.C. § 103(a) rejection of claims 26, 28, 29, 31 and 34 as being unpatentable over Berry and Erickson, in view of Gill, and the 35 U.S.C. § 103(a) rejection of claim 41 as being unpatentable over Berry, Erickson and Gill, and further in view of Johnson. Accordingly, Applicant respectfully requests allowance of claims 1-3, 6-8, 10-19, 21-26, 28, 29, 31, 34, 36-38, 40, 41 and 46-53.

Conclusion

In view of the foregoing, the entire application is now believed to be in condition for allowance, early notice of which would be appreciated. Should the Examiner not agree, then a personal or telephonic interview is respectfully requested to discuss any remaining issues in an effort to expedite the allowance of this application.

Respectfully submitted,

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Date


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